WHAT IS CLAIMED IS:

1. A thermal cycling device for biological samples, comprising:

a sample block having a plurality of openings for receiving sample wells of a sample well tray therein, the sample block further having an upper surface positioned about the outer periphery of the sample block in a region outside of the openings in the sample block, the upper surface of the sample block defining a plurality of recesses;

an annular plate positioned above the sample block adjacent the outer periphery of the sample block, the annular plate configured to abut a bottom surface of the sample well tray when the sample well tray is positioned therein; and

a plurality of spring devices interposed between the sample block and the annular plate, the spring devices positioned at least partially within the plurality of recesses in the sample block, the spring devices configured to contact the annular plate to urge the annular plate and sample well tray away from the sample block.

2. The thermal cycling device of claim 1, the plurality of spring devices comprising helical springs.

3. The thermal cycling device of claim 2, the plurality of recesses in the sample block comprising cylindrical recesses.

4. The thermal cycling device of claim 3, the plurality of spring devices and the plurality of recesses being positioned substantially symmetrically around the periphery of the sample block.

5. The thermal cycling device of claim 1, wherein the plurality of spring devices comprise fourteen spring devices for each annular plate.

6. The thermal cycling device of claim 1, wherein the annular plate is metallic.

7. The thermal cycling device of claim 6, wherein the annular plate is aluminum.

8. The thermal cycling device of claim 1, further comprising a plurality of guide members for restricting movement of the annular plate in a direction parallel to the upper surface of the sample block, while permitting the annular plate to move in a direction substantially perpendicular to the upper surface of the sample block.

9. The thermal cycling device of claim 8, each guide member comprising a substantially longitudinal shaft, the annular plate further comprising a plurality of cylindrical openings for receiving the substantially longitudinal shafts therein.

10. The thermal cycling device of claim 9, the sample block comprising a plurality of cylindrical recesses for receiving the substantially longitudinal shafts.

11. The thermal cycling device of claim 10, wherein the longitudinal shaft includes a threaded portion configured for engaging a threaded portion of the corresponding cylindrical recess in the sample block.

12. The thermal cycling device of claim 8, wherein the plurality of guide members comprise four guide members.

13. The thermal cycling device of claim 1, wherein the thermal cycling device comprises two sets of sample blocks.

14. The thermal cycling device of claim 1, further comprising a cover configured for pressing downward on the top of the sample well plate when in

a closed position, wherein the spring devices are configured to engage a bottom surface of the annular plate in order to disengage the sample well tray from the sample block upon opening of the cover.

15. The thermal cycling device of claim 14, wherein the spring devices bias the annular plate away from the sample block to thereby urge the sample wells out of the openings in the sample block upon the opening of the cover.

16. The thermal cycling device of claim 1, wherein the sample block openings are sized to receive sample wells having a fluid volume in the range of 10 to 500μL.

17. A system for ejecting a sample well tray having a plurality of sample wells configured for containing biological material from a sample block of a thermal cycling device, comprising:

a sample block configured to be engageable with a sample well tray, the sample block comprising a plurality of openings for receiving sample wells of a sample well tray therein; and

an urging mechanism interposed between the sample block and the sample well tray to urge the sample well tray away from the sample block, the urging mechanism comprising an annular urging plate configured to engage a sample well tray, and a plurality of springs interposed between the sample block and the annular plate to urge the annular plate away from the sample block, the plurality of springs being positioned at least partially within a plurality of recesses in the sample block, the urging mechanism further configured to eject the sample wells of the sample well tray from contacting

the plurality of openings of the sample block automatically upon the opening of a cover of the thermal cycling device.

18. The system of claim 17, wherein the annular urging plate has a central opening suitably dimensioned to surround the plurality of sample wells of the sample well tray when the sample well tray is placed thereon.

19. The system of claim 17, the plurality of springs comprising helical springs.

20. The system of claim 19, the plurality of recesses in the sample block comprising cylindrical recesses.

21. The system of claim 20, the plurality of springs and the plurality of recesses being positioned substantially symmetrically around the periphery of the sample block.

22. The system of claim 17, wherein the plurality of springs comprise fourteen springs for each annular plate.

23. The system of claim 17, wherein the annular urging plate is metallic.

24. The system of claim 23, wherein the annular urging plate is aluminum.

25. The system of claim 17, further comprising a plurality of guide members for restricting movement of the annular urging plate in a direction parallel to an upper surface of the sample block, while permitting the annular urging plate to move in a direction substantially perpendicular to the upper surface of the sample block.

26. The system of claim 25, each guide member comprising a substantially longitudinal shaft, the annular urging plate further comprising a

plurality of cylindrical openings for receiving the substantially longitudinal shafts therein.

27. The system of claim 26, the sample block comprising a plurality of cylindrical recesses for receiving the substantially longitudinal shafts.

28. The system of claim 27, wherein the longitudinal shaft includes a threaded portion configured for engaging a threaded opening in the sample block.

29. The system claim 25, wherein the plurality of guide members comprise four guide members.

30. The system of claim 17, wherein the thermal cycling device comprises two sets of sample blocks.